NOISE IMPACT ANALYSIS

Verizon Wireless
Site Name: "I-15 East Mission Road"
4230 White Lilac Road
Fallbrook, California 92028

Prepared For

Milestone Wireless
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Prepared By

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Job #B01002N1

November 9, 2010

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1.0 EXECUTIVE SUMMARY

The existing Verizon Wireless telecommunications facility, known as I-15 East Mission Road, currently consists of an unmanned telecommunications equipment shelter. Verizon proposes to add a new emergency generator to the site to be located outside of the equipment shelter. The project site is located at 4230 White Lilac Road in the unincorporated community of Fallbrook, County of San Diego, California.

The purpose of this report is to assess equipment noise impacts from the equipment on the existing and proposed Verizon facility, as well as noise from the existing Nextel site located on the same property, and to determine if additional mitigation is necessary and feasible to reduce project related property line noise impacts to less than significant. Noise limits specified within the County of San Diego Noise Ordinance must be met at neighboring property lines.

Based on the Verizon project information available, calculations show that, with the manufacturer's sound enclosure on the proposed generator, the combined noise impacts from the unmanned operation of the existing and proposed Verizon facility equipment and existing Nextel equipment will not exceed County of San Diego property line noise limits at surrounding property lines.

2.0 INTRODUCTION

This acoustical analysis report is submitted to satisfy the noise requirements of the County of San Diego. Its purpose is to assess noise impacts from on-site project related mechanical noise sources, and to determine if mitigation will reduce the noise impacts to less than significant levels.

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol "L_{EQ}" unless a different time period is specified, "L_{EQ}" is implied to mean a period of one hour. Some of the data may also be presented as octave-band-filtered and/or A-octave-band-filtered data, which are a series of sound spectra centered about each stated frequency, with half of the bandwidth above and half of the bandwidth below each stated frequency. This data is typically used for machinery noise analysis and barrier-effectiveness calculations.

Sound Pressure is the actual noise experienced by a human or registered by a sound level instrument. When Sound Pressure is used to describe a noise source, the distance from the noise source must be specified in order to provide complete information. Sound Power, on the other hand, is a specialized analytical method to provide information without the distance requirement, but it may be used to calculate the sound pressure at any desired distance.

2.1 Project Location

The subject property is located at 4230 White Lilac Road in the unincorporated community of Fallbrook, County of San Diego, California. The Assessor's Parcel Number (APN) is 108-340-25. The owner of the property is Kendall Farms. There is an existing residence on the lot.

For a graphical representation of the site, please refer to the Vicinity Map, Assessor's Parcel Map, Satellite Aerial Photograph, and Topographic Map provided as Figures 1 through 4, respectively.

2.2 Project Description

The proposed project includes the installation of a 30 kW Kohler emergency backup generator at the existing wireless facility. Currently, the Verizon equipment on site consists of an existing equipment shelter, serviced by two ground-mounted air conditioning units located to the south of the shelter. The generator is proposed to be located to the north of the shelter, mounted on a concrete pad. The generator is not expected to be operational except in the event of a power failure, although it will typically run for 15 minutes, once a week; during mid-day on a weekday, for test and maintenance purposes.

There is an existing Nextel communications facility on site as well. The Nextel equipment shelter is located to the south of the existing Verizon shelter, and the only significant noise sources associated with this equipment include two wall-mounted air conditioning units mounted to the south side of the enclosure.

For additional project details and equipment positioning, please refer to the site plans, dated October 26, 2009, provided in Appendix A.

2.3 Applicable Noise Standards

The noise regulations applicable to this project are contained within the County of San Diego Municipal Code, which specifies noise limits based on the zoning designation of the properties in question. The subject property is zoned A70 (Limited Agricultural). Neighboring properties to the north, south, east, and west are all zoned A70 as well. Properties zoned A70 have noise limits of 50 dBA between the hours of 7 a.m. and 10 p.m. and 45 dBA between the hours of 10 p.m. and 7 a.m.; however, the ordinance states that, "If the measured ambient noise level exceeds the applicable limit... the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating." Pertinent sections of the County of San Diego Noise Ordinance are provided as Appendix B.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

The existing noise environment is fairly noisy. The main source of noise is traffic traveling on Interstate 15. The proposed generator location is approximately 600 feet east of the centerline of I-15. See Figure 1: Vicinity Map for more details.

The existing Verizon equipment on site consists only of an indoor equipment shelter that is serviced by two ground-mounted Carrier 38HDC060 air conditioning units, located to the south of the existing shelter. As the air conditioning units only turned on for a short period of time during the site visit, no noise measurements could be made for these units. Manufacturer noise information for these units was not found on the Carrier website; however, noise information for a similar unit, the Carrier 38HDR060, was used. Sound power levels provided by the manufacturer are shown in Table 1. Please refer to Appendix C: Manufacturer Data Sheets.

Table 1. Sound Power Level of Carrier 38HDR060 Air Conditioning Unit								
Source	Octave Frequency (Hz)							Total (dBA)
	125	250	500	1K	2K	4K	8K	
Carrier 38HDR060 Sound Power (dBA)	63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.4

The existing Nextel equipment area also has two wall-mounted air conditioning units, mounted on the south side of the shelter. Neither Nextel unit turned on during the site visit, nor was manufacturer information available. For this reason, it was assumed that the wall-mounted air conditioning units at the Nextel site would produce a noise level similar to that produced by a Marvair Compac II wall-mounted air conditioning unit. Noise from an existing Marvair Compac II unit was measured on Wednesday, October 20, 2010 at approximately 12:30 p.m. at the existing Verizon Wireless site known as "Scripps Ranch Water Tank," located at 12227 Spring Canyon Road in the City of San Diego, California. The Assessor's Parcel Number (APN) is 319-211-35. A one-minute L_{EQ} was measured at five feet from one of the existing units while it was in operation. A Larson Davis Model 824 Sound Level Meter (Serial Number 0343) was used to obtain octave band noise data for the mechanical unit. The results of the measurement are shown in Table 2 below.

Table 2. Measured Sound Pressure Levels for Single Marvair Compac II Wall-Mounted AC Unit									
Source	Octave Frequency (Hz)								Total (dBA)
	63	125	250	500	1K	2K	4K	8K	
Marvair Compac II, At 5' from Unit	69.9	74.0	72.4	66.0	64.0	57.7	54.2	46.5	69.1

No other noise source was deemed significant.

3.1.1 Ambient Noise Monitoring

An on-site inspection was conducted at 7:00 a.m. on Wednesday, November 3, 2010 to verify conditions and the existing noise environment. One 24-hour noise monitor was placed on-site. The sound level meter (Larson Davis 720) was located on the north side of the equipment shelter in the proposed generator area, approximately 70 feet south of the northern property line. In this location, the meter was shielded from existing mechanical equipment noise from units on the south side of the shelter. Please refer to Table 3 for the hourly noise levels without mechanical equipment noise influence. For a graphical representation of the measurement location, please refer to Figure 5.

Table 3. Measured Ambient Noise Levels	
Time	L_{EQ} (dBA)
7 a.m. – 8 a.m.	65.6
8 a.m. – 9 a.m.	63.6
9 a.m. – 10 a.m.	60.0
10 a.m. – 11 a.m.	57.3
11 a.m. – 12 p.m.	56.7
12 p.m. – 1 p.m.	57.2

Table 3. Measured Ambient Noise Levels	
Time	**L_{EQ} (dBA)**
1 p.m. – 2 p.m.	57.3
2 p.m. – 3 p.m.	57.4
3 p.m. – 4 p.m.	58.2
4 p.m. – 5 p.m.	59.6
5 p.m. – 6 p.m.	58.7
6 p.m. – 7 p.m.	59.9
7 p.m. – 8 p.m.	61.8
8 p.m. – 9 p.m.	61.8
9 p.m. – 10 p.m.	62.2
10 p.m. – 11 p.m.	59.7
11 p.m. – 12 a.m.	58.4
12 a.m. – 1 a.m.	56.5
1 a.m. – 2 a.m.	**56.0**
2 a.m. – 3 a.m.	56.3
3 a.m. – 4 a.m.	58.5
4 a.m. – 5 a.m.	61.3
5 a.m. – 6 a.m.	64.4
6 a.m. – 7 a.m.	64.4

During the noise level measurement, the microphone position was approximately three feet above the existing grade elevation. The primary contributor to this noise level was traffic noise from cars and trucks on Interstate 15. As shown in Table 1, the minimum hourly ambient noise level was 56.0 dBA between the hours of 1 a.m. and 2 a.m., exceeding the applicable nighttime noise limit. The north, south, and west property lines, as well as the on-site residence, are either the same distance or closer to I-15, thus, the noise limit in these locations was assumed to be 59.0 dBA, as per the County Noise Ordinance. As receivers at the east property line are expected to receive additional shielding from traffic noise on I-15 due to distance and existing topography, the noise limit at this property line was assumed to be 45 dBA. Refer to Appendix B for more information.

3.2 Future Noise Environment

The future noise environment in the vicinity of the project site will be primarily a result of the same noise sources, as well as the noise generated by the proposed equipment at the Verizon facility.

Noise levels for the Kohler 30 kW generator with and without the manufacturer-provided sound and weather enclosure were provided by Brian Glenn of Bay City Electric Works, an installation vendor for Verizon Wireless. Broadband frequency noise levels were given for the measurements which were taken at 23 feet from the generator. For this reason, octave band noise levels were approximated using noise measurements made of a Kohler 40 kW generator for a previous Eilar Associates acoustical report. The resultant estimated noise spectrums are shown below in Table 4. More information is provided in Appendix C: Manufacturer Data Sheets, and Appendix D: Pertinent Sections of Previous Eilar Associates Acoustical Report.

Table 4. Estimated Sound Pressure Level of Kohler 30 kW Generator, at 23 Feet from Source									
Source	Octave Frequency (Hz)								Total (dBA)
	63	125	250	500	1K	2K	4K	8K	
Generator Without Sound Enclosure	78.3	78.3	79.4	72.3	76.3	73.5	66.5	62.3	80.0
Generator With Sound Enclosure	63.6	63.6	64.7	57.6	61.7	58.8	51.8	47.1	65.4

4.0 METHODOLOGY AND EQUIPMENT

4.1 Methodology

Modeling of the outdoor noise environment is accomplished using Cadna Version 3.7, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed CAD model and uses the most up-to-date calculation standards to predict outdoor noise impacts.

4.2 Measurement Equipment

Some or all of the following equipment was used at the site to measure existing ambient noise levels:

- Larson Davis Model 720, Type 2 Sound Level Meter, S/N 0219, with microphone & windscreen
- Larson Davis Model CA150, Type 2 Calibrator, S/N 0339
- Distance measurement wheel, digital camera

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with sound level meters that conform to the American National Standards Institute specifications for sound level meters (ANSI S1.4-1983, R2001). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 IMPACTS AND MITIGATION

5.1 Unmitigated Noise Impacts

Noise levels of the generator without the sound enclosure were calculated using Cadna and do not take into account shielding from existing structures. This analysis also includes noise levels of existing Verizon air conditioning units and typical air conditioning units considered representative of wall-mounted air conditioning units at the existing Nextel site. Results of this analysis are shown in

Table 5 below. Unmitigated noise contours are also shown in Figure 5, and additional information can be found in Appendix E: Cadna Analysis Data and Results.

Table 5. Calculated Wireless Facility Noise Impact Levels Without Sound Enclosure				
Receiver Number	**Description**	**Approximate Distance (feet)**	**Noise Limit (dBA)**	**Unmitigated Noise Level (dBA)**
R-1	North Property Line	68	59.0*	69.5
R-2	South Property Line	616	59.0*	48.6
R-3	East Property Line	545	45.0	49.8
R-4	West Property Line	270	59.0*	56.8
R-5	On-Site Residence	287	59.0*	56.1

*See Section 3.1.1, Ambient Noise Monitoring.

As shown above, combined equipment noise levels without the manufacturer sound enclosure on the generator will exceed the applicable noise limit at the north property line set by the County of San Diego based on ambient noise levels. Additionally, noise levels at the east property line exceed the applicable 45 dBA noise limit. Mitigation is required.

5.2 Mitigated Noise Impacts

In order to bring combined noise levels into compliance with applicable County of San Diego noise limits, the generator must be equipped with the manufacturer sound enclosure. Noise levels were calculated with the enclosure in place, and results are shown below in Table 6. Figure 6 shows mitigated noise contours, and additional information is provided in Appendix E: Cadna Analysis Data and Results.

Table 6. Calculated Wireless Facility Noise Impact Levels With Sound Enclosure				
Receiver Number	**Description**	**Approximate Distance (feet)**	**Noise Limit (dBA)**	**Mitigated Noise Level (dBA)**
R-1	North Property Line	68	59.0*	55.1
R-2	South Property Line	616	59.0*	34.9
R-3	East Property Line	545	45.0	35.8
R-4	West Property Line	270	59.0*	43.3
R-5	On-Site Residence	287	59.0*	42.9

*See Section 3.1.1, Ambient Noise Monitoring.

As shown above, with the manufacturer sound enclosure implemented into the design, noise impacts from existing and proposed equipment are expected to be in compliance with the 59.0 dBA noise limit at the north, south, and west property lines along with the on-site residence, and noise levels are expected to be less than 45 dBA at the east property line.

6.0 CONCLUSION

With the manufacturer sound enclosure installed on the generator, noise impacts from the existing and proposed Verizon Wireless equipment, as well as existing Nextel equipment, will meet the applicable noise limits defined by the County of San Diego.

This analysis is based upon a current worst case scenario of anticipated, typical equipment for this type of wireless facility. Substitution of equipment with higher noise emission levels may invalidate the recommendations of this study. These conclusions and recommendations are based on the most up-to-date, project-related information available.

7.0 CERTIFICATION

This report is based on the related project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the proposed addition to the existing Verizon Wireless site known as "I-15 East Mission Road," located at 4230 White Lilac Road in the unincorporated community of Fallbrook, County of San Diego, California. This report was prepared by Amy Hool and Douglas Eilar.

Douglas K. Eilar,
Principal/Senior Acoustical Consultant

Amy Hool, Acoustical Consultant

8.0 REFERENCES

1. Beranek, Leo L., *Acoustical Measurements*, Published for the Acoustical Society of America by the American Institute of Physics, Revised Edition, 1988.

2. County of San Diego Noise Ordinance.

3. Harris, Cyril M., *Handbook of Acoustical Measurements and Noise Control*, Acoustical Society of America, 3rd Edition, 1998.

4. Harris, Cyril M., Ph.D., *Noise Control in Buildings*, Original Edition, 1994.

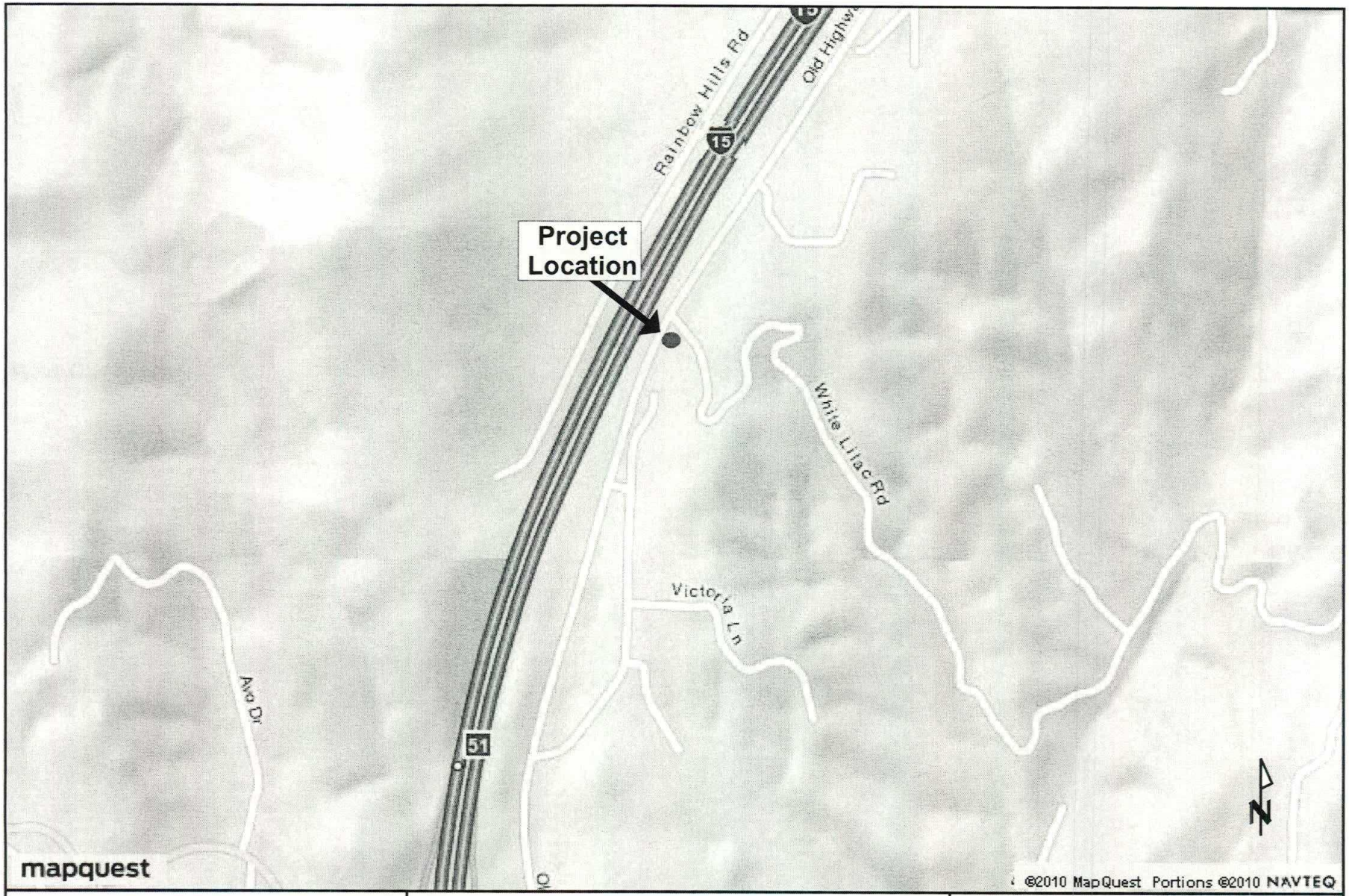
5. Hirschorn, Martin, *Noise Control Reference Handbook*, Revised Edition, 1989.

6. Irvine, Leland K. and Richards, Roy L., *Acoustics and Noise Control Handbook for Architects and Builders*, Original Edition, 1998.

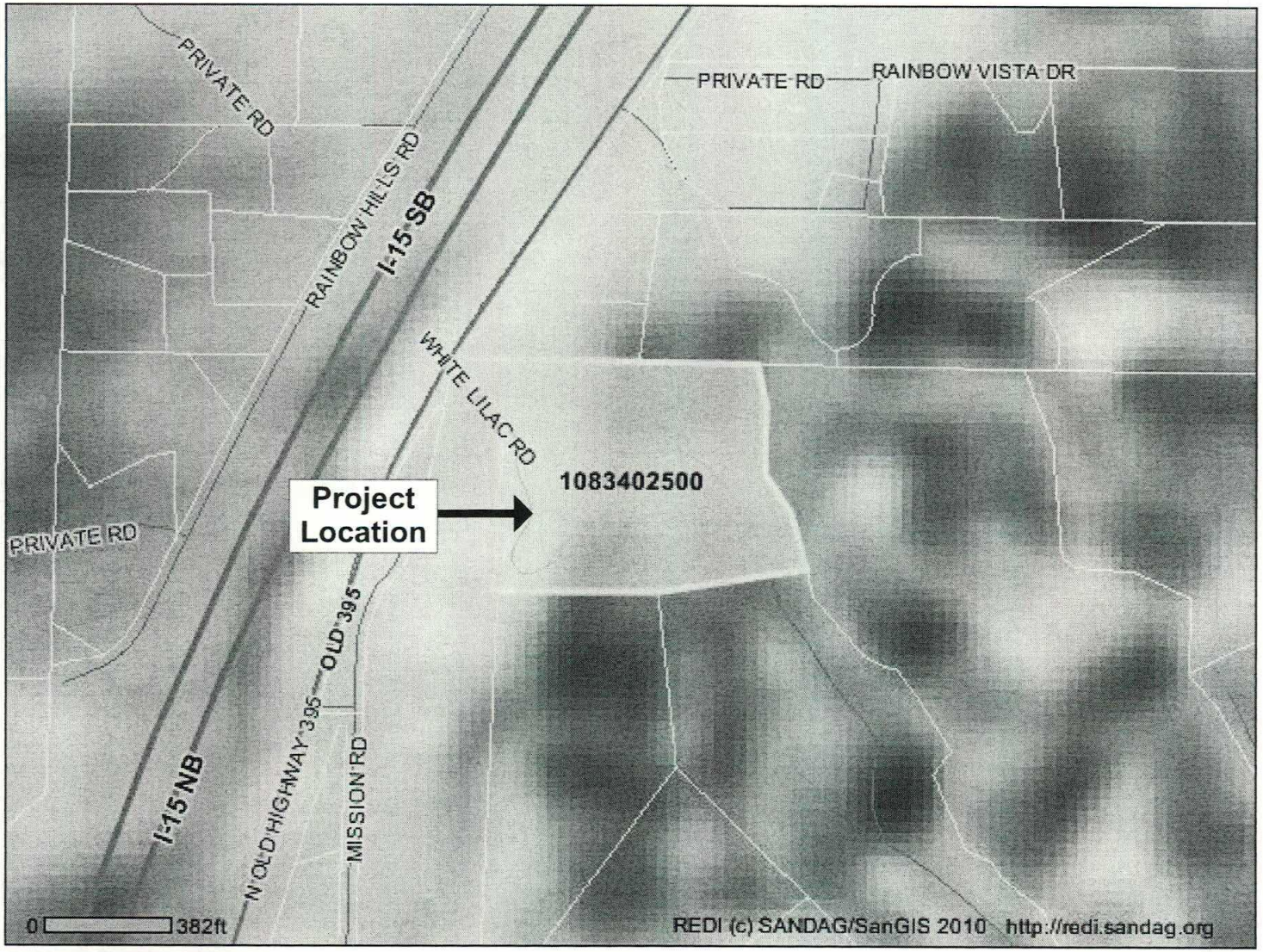
7. Knudsen, Vern O. and Harris, Cyril M., *Acoustical Designing In Architecture*, American Institute of Physics for the Acoustical Society of America, 2nd Edition, 1978.

8. Raichel, Daniel R., *The Science and Applications of Acoustics*, American Institute of Physics Press for the Acoustical Society of America, 1st Edition, 2000.

FIGURES



Eilar Associates, Inc. **539 Encinitas Boulevard, Suite 206** **Encinitas, California 92024** **760-753-1865**	**Vicinity Map** **Job #B01002N1**	**Figure 1**



SANDAG

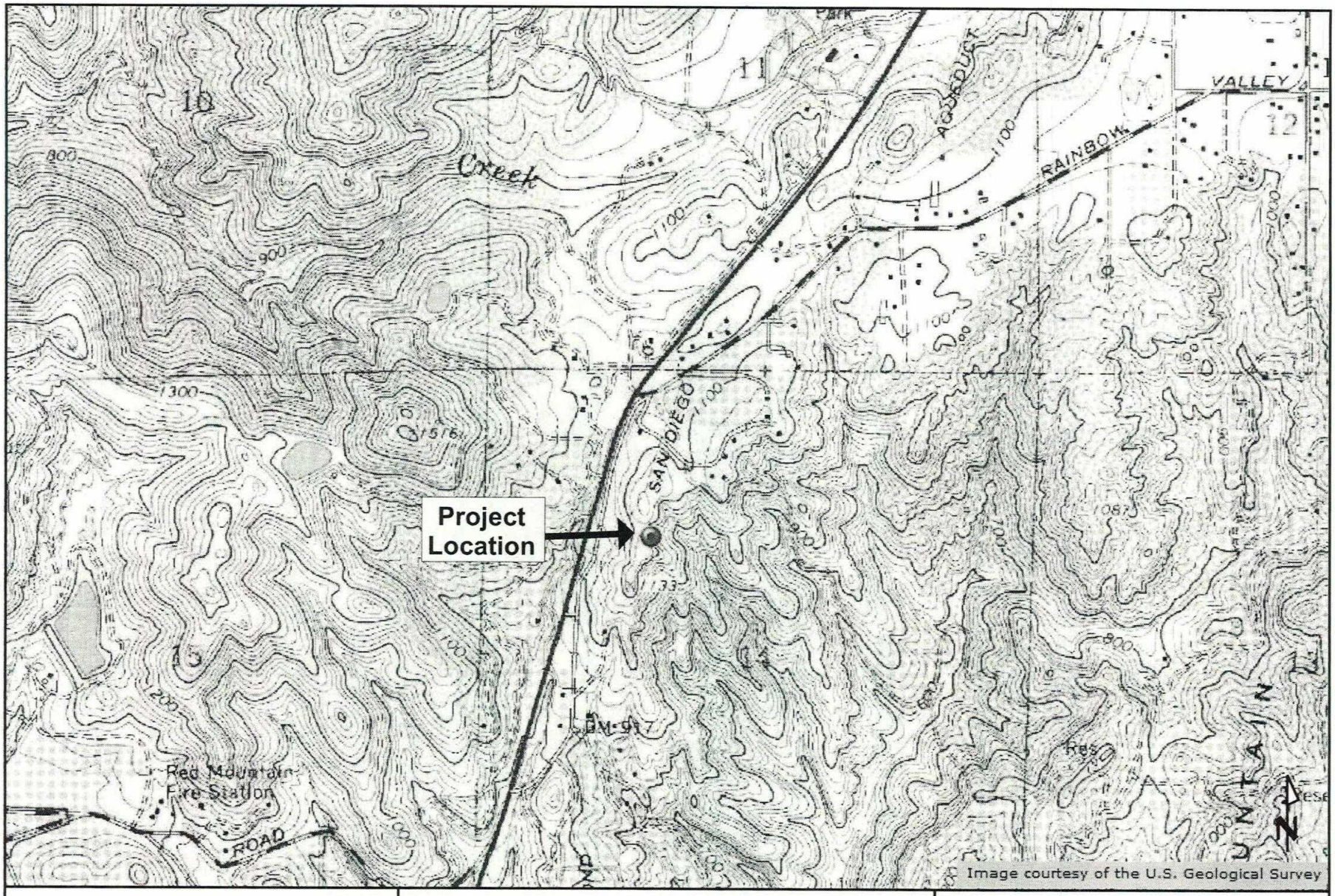
SanGIS

San Diego County Assessor's Parcel Number: 108-340-25

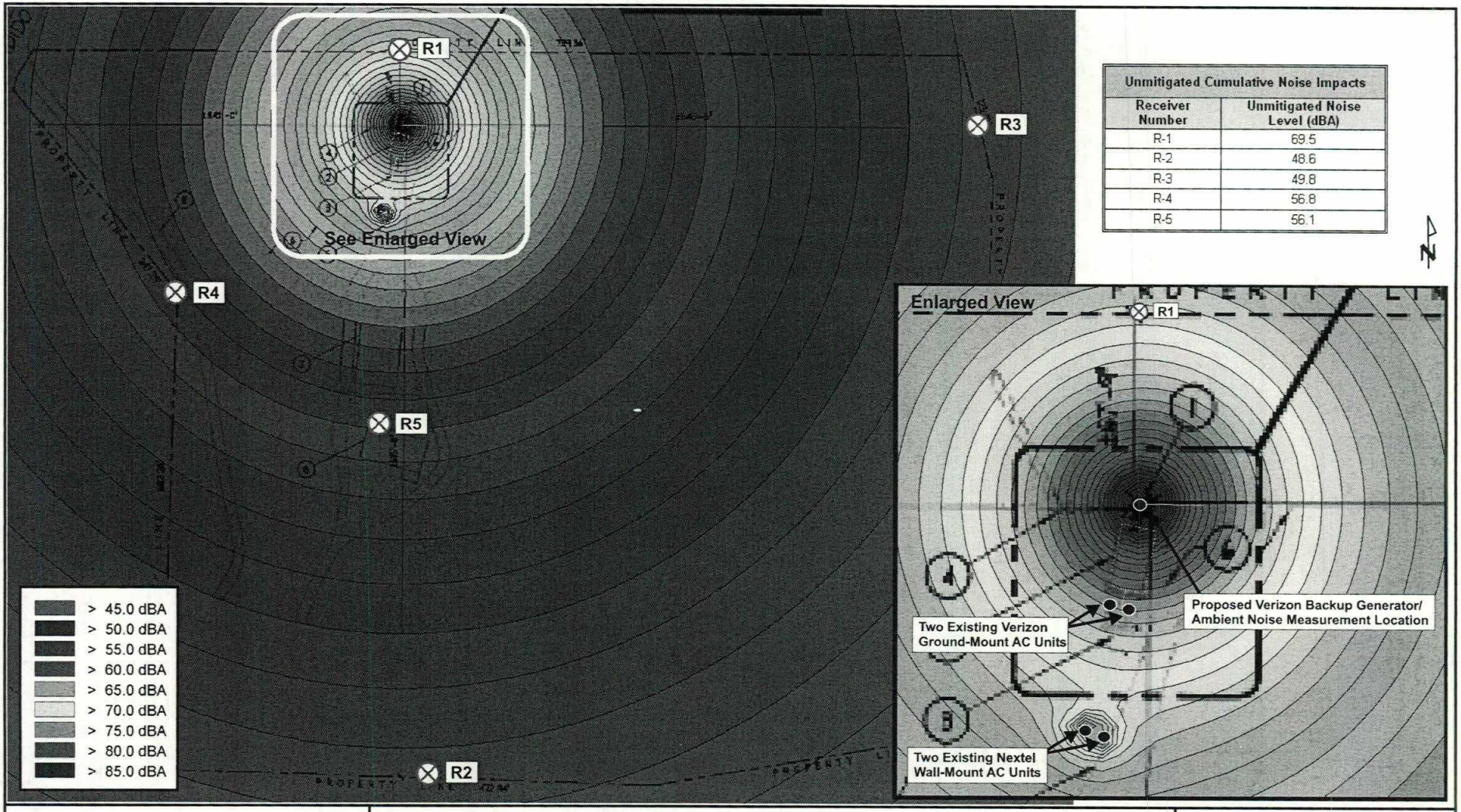
N

Eilar Associates, Inc. 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Assessor's Parcel Map Job # B01002N1	Figure 2

Eilar Associates, Inc. 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	Satellite Aerial Photograph Job # B01002N1	Figure 3



Eilar Associates, Inc. 539 Encinitas Boulevard, Suite 206 Encinitas, California 92024 760-753-1865	**Topographic Map** **Job # B01002N1**	**Figure 4**



Unmitigated Cumulative Noise Impacts	
Receiver Number	Unmitigated Noise Level (dBA)
R-1	69.5
R-2	48.6
R-3	49.8
R-4	56.8
R-5	56.1

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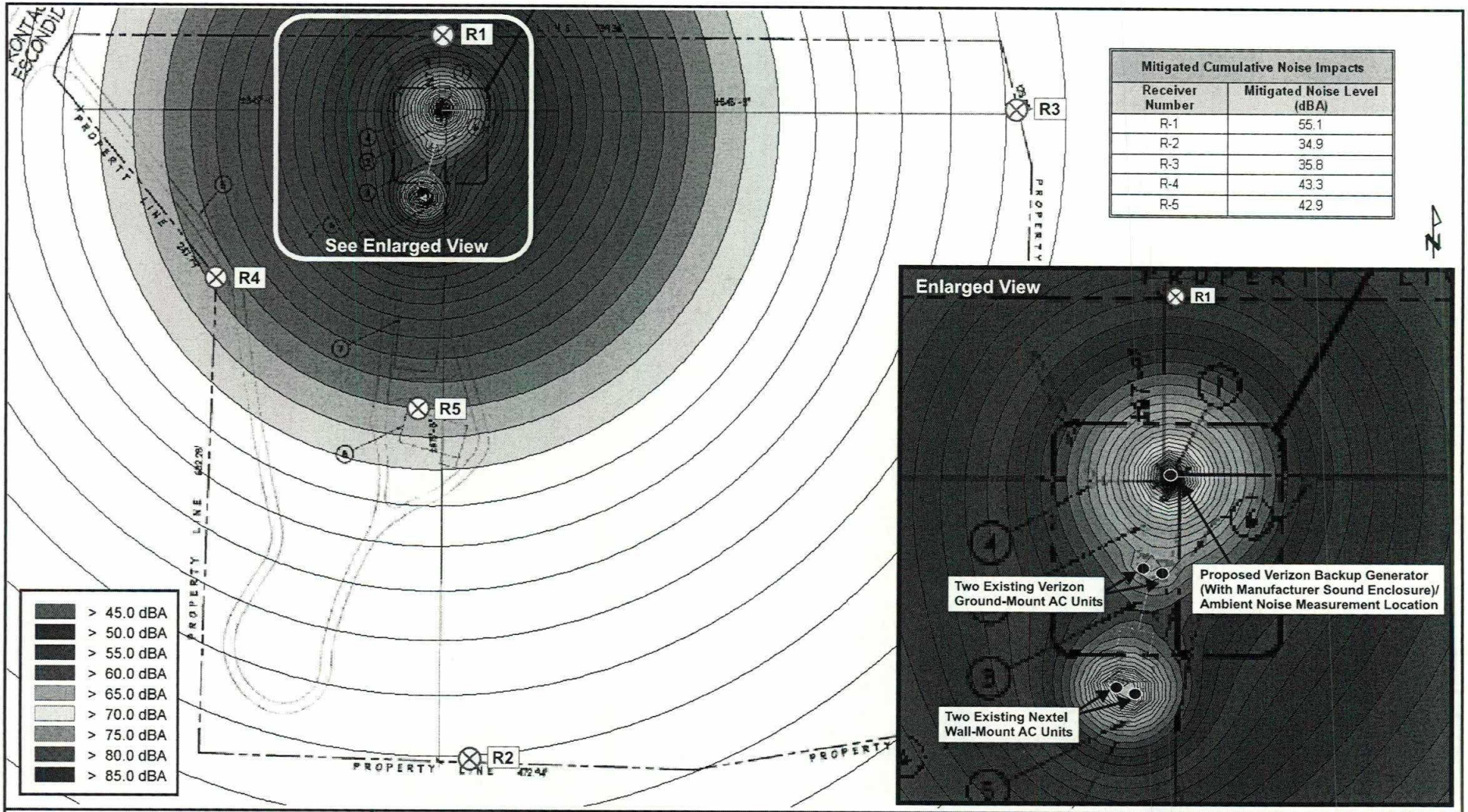
Site Plan Showing Unmitigated Noise Contours and Receiver Locations
Job # B01002N1

Figure 5



Mitigated Cumulative Noise Impacts	
Receiver Number	Mitigated Noise Level (dBA)
R-1	55.1
R-2	34.9
R-3	35.8
R-4	43.3
R-5	42.9

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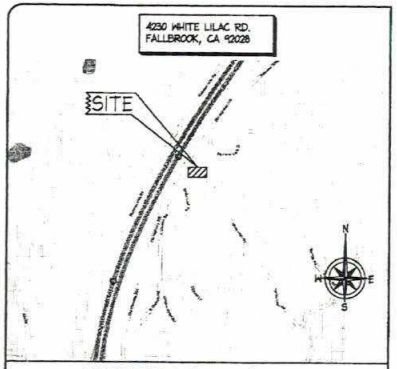
760-753-1865

Site Plan Showing Mitigated Noise Contours and Receiver Locations
Job # B01002N1

Figure 6

APPENDIX A

Site Plans, Dated October 26, 2009



VICINITY MAP - N.T.S.

verizonwireless

I-15 EAST MISSION ROAD

DIRECTIONS TO SITE

TAKE RAMP ONTO I-5 N. GO 6.2 MI. TAKE THE ANAHEIM/RIVERSIDE EXIT ONTO CA-55 N. GO 7.4 MI. TAKE THE RIVERSIDE EXIT ONTO CA-91 E. GO 16.8 MI. TAKE THE BARSTOW/SAN DIEGO EXIT ONTO I-15 S TOWARD SAN DIEGO. GO 41.9 MI. TAKE EXIT 85A/RAINBOW VALLEY BLVD. GO 0.4 MI. TURN LEFT ON W RAINBOW VALLEY BLVD. GO 0.2 MI. TURN RIGHT ON OLD HIGHWAY 395. GO 2.6 MI. TURN LEFT ON WHITE LILAC RD. GO 0.1 MI. ARRIVE AT 4230 WHITE LILAC RD, FALLBROOK, ON THE LEFT.

DRIVING DIRECTIONS

NEW ANTENNA		LIGHT POLE		ELEVATION REF.		ELECT. CONDUIT	PLASTER
EXISTING ANTENNA		FOUNDATION		SECTION REF.		COAXIAL CABLE	(E) MASONRY
GROUND ROD		SPOT ELEV.		PROP./LEASE LINE		OVERHEAD SERV. CONDUCTORS	CONCRETE
GROUND BUS BAR		SET POINT		MATCH LINE		CHAIN LINK FENCE	EARTH
MECH. GRND. CONN.		REVISION		WORK POINT		CENTERLINE	GRAVEL
CADWELD		GRID REF.		GRND. CONDUCTOR		WOOD CONT.	PLYWOOD
GROUND ACC. WELL		DETAIL REF.		TELE. CONDUIT		WOOD BLOCKING	SAND
ELECTRIC BOX							STEEL
TELEPHONE BOX							

SYMBOLS, LINETYPES AND HATCH PATTERNS

PLAN VERIFICATION

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

AC.	ASPHALT CONCRETE	GVL.	GRAVEL
ANT.	ANTENNA(S)	HC.	HANDICAPPED
BEL.	BELOW	HORIZ.	HORIZONTAL
B.G.	BELOW GRADE	HT.	HEIGHT
BLD'G.	BUILDING	HVAC.	HTG./ VENT./ A/C
B.M.	BENCH MARK	INCL.	INCLUDE
BRK.	BRICK	LBS.	POUNDS
CAB.	CABINET	LPT.	LOW POINT
C.B.	CATCH BASIN	MAS.	MASONRY
CEM.	CEMENT	MAX.	MAXIMUM
CFT.	CUBIC FOOT	MET.	METAL
C.I.P.C.	CAST-IN-PLACE CONC.	MFR.	MANUFACTURER
C.L.L.	CONTRACT LIMIT LINE	MIN.	MINIMUM
CLS.	CLOSURE	(N)	NEW
C.M.U.	CONC. MASONRY UNIT	N	NORTH
CONC.	CONCRETE	N.I.C.	NOT IN CONTRACT
CONN.	CONNECTION	N.T.S.	NOT TO SCALE
CONST.	CONSTRUCTION	P.P.	POWER POLE
CTR.	CENTER	P.L.	PROPERTY LINE
CYD.	CUBIC YARD	P.O.C.	POINT OF CONN.
DBL.	DOUBLE	PROP.	PROPERTY
DEMO.	DEMOLITION	PT.	POINT
DIM.	DIMENSION	PVMT.	PAVEMENT
DRWG.	DRAWING	REQD.	REQUIRED
DTL.	DETAIL	RFH.	ROOF HATCH
(E)	EXISTING	RFG.	ROOFING
E	EAST	R.O.W.	RIGHT-OF-WAY
EL.	ELEVATION	S	SOUTH
ELEC.	ELECTRIC (AL)	TEL.	TELEPHONE
ENCL.	ENCLOSURE	T.O.P.	TOP OF PARAPET
E.P.	ELECT. PANELBOARD	T.O.S.	TOP OF SLAB (SURFACE)
EQUIP.	EQUIPMENT		
EX.	EXISTING	T.O.W.	TOP OF WALL
EXT.	EXTERIOR	TYP.	TYPICAL
FS.	FINISH SURFACE	UNF.	UNFINISHED
FT.	FOOT OR FEET	U.N.O.	UNLESS NOTED OTHERWISE
FUT.	FUTURE		
G.C.	GENERAL CONTR.	VERT.	VERTICAL
G.F.	GROUND FACE	W	WEST
GND.	GROUND	W/	WITH
GR.	GRADE OR GRADING	WP.	WATERPROOF
GV.	GAS VENT	WT.	WEIGHT

ABBREVIATIONS

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ACCEPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES:

1. CALIFORNIA ADMINISTRATIVE CODE (INCL. TITLES 24 & 25)
2. 2007 CALIFORNIA BUILDING CODE
3. BUILDING OFFICIALS AND CODE ADMINISTRATORS (BOCA)
4. 2007 UNIFORM MECHANICAL CODE
5. ANSI/EIA-222-F LIFE SAFETY CODE NFPA-101
6. 2007 UNIFORM PLUMBING CODE
7. 2007 NATIONAL ELECTRIC CODE
8. LOCAL BUILDING CODE
9. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

THIS PROPOSED PROJECT CONSISTS OF THE INSTALLATION OF A 30 KW KOHLER EMERGENCY BACKUP GENERATOR OUTSIDE A VERIZON WIRELESS EXISTING UNMANNED TELECOMMUNICATIONS FACILITY. THIS GENERATOR WOULD RUN IN THE EVENT OF A MAJOR CATASTROPHE CAUSING COMMERCIAL POWER FAILURE.

PROJECT DESCRIPTION

SITE PARCEL NO.:	108-340-25-00
JURISDICTION:	COUNTY OF SAN DIEGO
ZONE:	A70
OCCUPANCY:	UNMANNED TELECOMMUNICATIONS FACILITY
LATITUDE:	33° 23' 55.09" N
LONGITUDE:	117° 10' 7.4" W
ELEVATION:	1120'
LEGAL DESCRIPTION:	PARCEL 1 OF PARCEL MAP 12468, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY, OCTOBER 28, 1983 AS FILE NO. 83-390759 OF OFFICIAL RECORDS.

PROJECT DATA

SITE ADDRESS:	4230 WHITE LILAC RD. FALLBROOK, CA 92028
OWNER:	TROY CONNOR KENDALL FARMS 4230 WHITE LILAC ROAD
CONTACT:	TROY CONNOR (760) 731-9552, troyc@kendall-farms.com
APPLICANT:	VERIZON WIRELESS 15505 SAND CANYON AVE. BUILDING "D" 1ST FLOOR IRVINE, CA 92618 PHONE: (949) 286-7000
CONTACTS:	MILESTONE WIRELESS PROJECT MANAGER: EMANUEL HIGGINS 15205 PAYTON IRVINE, CA. 92620 PHONE: (323) 241-8619
ARCHITECT:	ACO ARCHITECTS, INC. 26170 ENTERPRISE WAY #600 LAKE FOREST, CA 92630 PHONE: (949) 716-9940 FAX: (949) 297-4788
CONTACT:	ANTHONY ORTALE (949) 716-9940

PROJECT DIRECTORY

T-1	TITLE SHEET
A-1	SITE PLAN
A-2	DETAILED SITE PLAN
A-3	ARCHITECTURAL ELEVATIONS
A-4	GENERATOR SPECIFICATIONS

SHEET INDEX

REV:	DATE/BY:	REVISION DESCRIPTION:
0	10-21-09 MY	ZONING SET
1	10-26-09 FN	CLIENT REVISIONS

CONSULTANT:

milestone wireless
8941 ATLANTA AVENUE, #504
HUNTINGTON BEACH, CA. 92646

SITE BUILDER:

verizonwireless
15505 SAND CANYON AVE.
BUILDING "D" 1st. FLOOR
IRVINE, CA. 92618
PHONE (949) 286-7000

A&E DEVELOPMENT:

ACO ARCHITECTS - INC.
26170 ENTERPRISE WAY #600
LAKE FOREST, CA 92630
TEL: 949-716-9940
FAX: 949-297-4788

ENGINEER:

SITE INFO:

SITE NAME:
I-15
EAST MISSION ROAD

SITE ADDRESS:
4230 WHITE LILAC RD.
FALLBROOK, CA 92028

SHEET TITLE:

TITLE SHEET

DRAWING INFO:

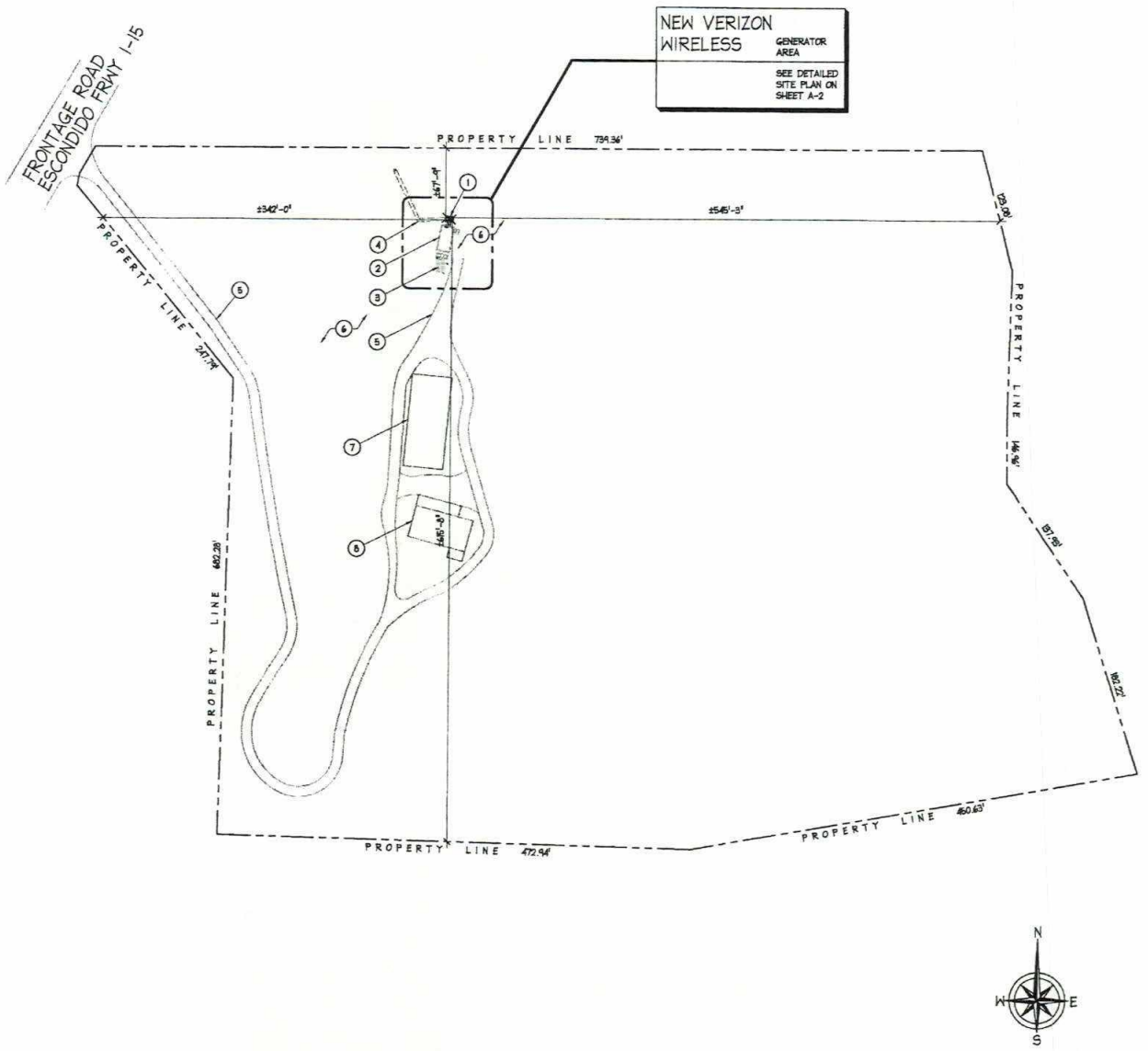
DWG. NAME:	DRAWN BY:	DATE:
T1	MY	10-20-09

SHEET NUMBER:

T-1

NOTES:

1. NEW VERIZON WIRELESS 30 KW KOHLER EMERGENCY BACKUP GENERATOR, WITH A 150 GALLON DIESEL FUEL TANK, MOUNTED ON A NEW 5'-0" X 8'-0" CONCRETE SPILL CONTAINMENT PAD LOCATED OUTSIDE EXISTING LEASE PREMISES. SEE SHEET A-2 FOR DETAILED SITE PLAN.
2. EXISTING VERIZON WIRELESS 13'-4" X 25'-4" EQUIPMENT SHELTER AND LOCATION OF NEW VERIZON WIRELESS WALL MOUNTED AUTOMATIC TRANSFER SWITCH.
3. EXISTING VERIZON WIRELESS 95' HIGH MONOPALM WITH (4) PANEL ANTENNAS PER SECTOR, (2) SECTORS, (8) ANTENNAS TOTAL.
4. EXISTING VERIZON WIRELESS UTILITY TRENCH WITH 3' WIDE UTILITY EASEMENT.
5. EXISTING DIRT ROAD.
6. EXISTING GRASS/DIRT AREA.
7. EXISTING IRR. RESERVOIR.
8. EXISTING HOUSE.
9. EXISTING HOUSE.



SITE PLAN

SCALE: 1" = 50'

REV:	DATE/BY:	REVISION DESCRIPTION:
0	10-21-09 MY	ZONING SET
1	10-26-09 FN	CLIENT REVISIONS

CONSULTANT:

milestone wireless
8941 ATLANTA AVENUE, #504
HUNTINGTON BEACH, CA. 92646

SITE BUILDER:

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st. FLOOR
IRVINE, CA. 92618
PHONE (949) 286-7000

A&E DEVELOPMENT:

ACO ARCHITECTS - INC.
26170 ENTERPRISE WAY #600
LAKE FOREST, CA 92630
TEL: 949-716-9940
FAX: 949-297-4786

ENGINEER:

SITE INFO:

SITE NAME:
I-15
EAST MISSION ROAD

SITE ADDRESS:
4230 WHITE LILAC RD.
FALLBROOK, CA 92028

SHEET TITLE:

SITE PLAN

DRAWING INFO:

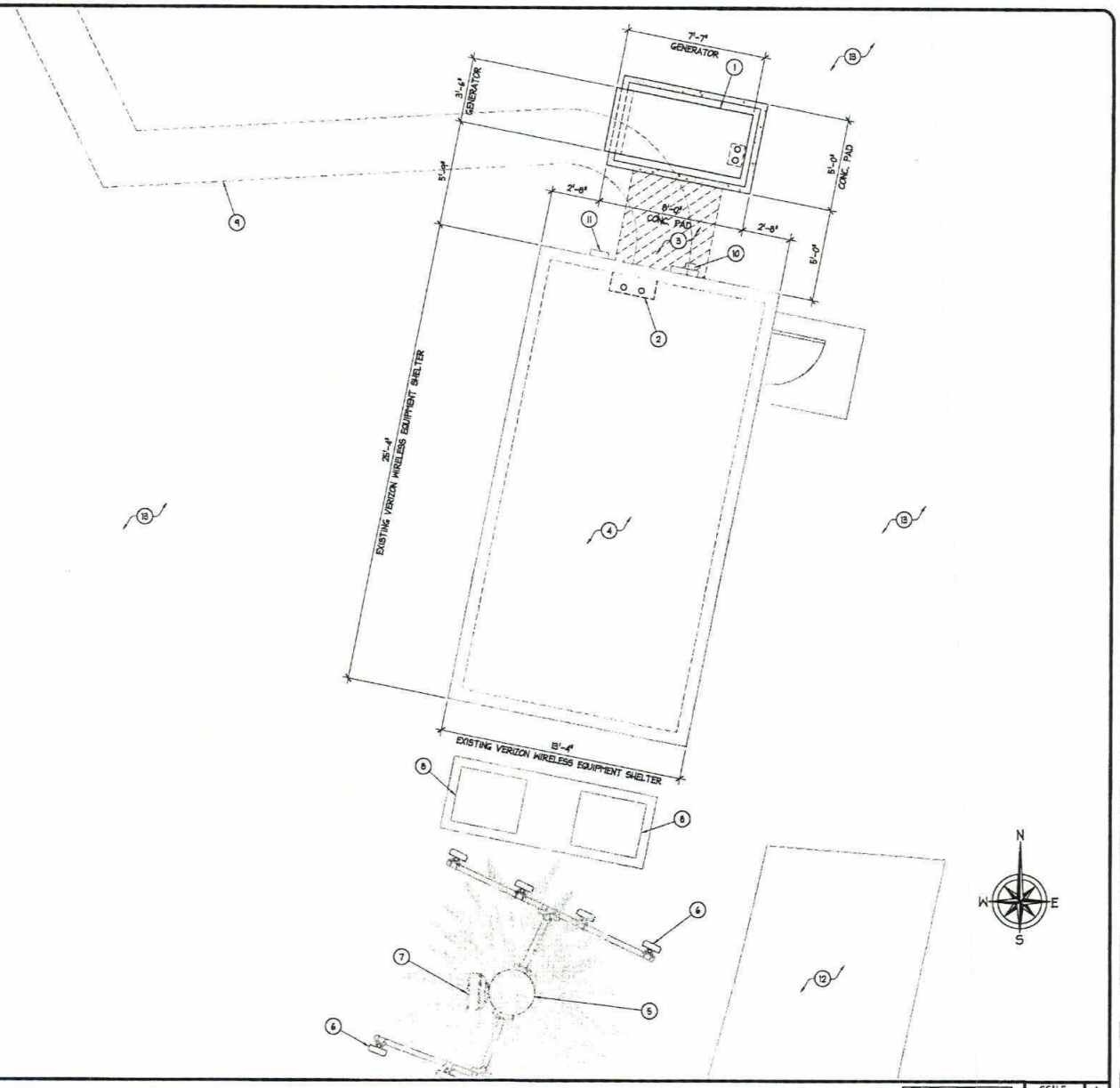
DWG. NAME:	DRAWN BY:	DATE:
A1	MY	10-20-09

SHEET NUMBER:

A-1

NOTES:

1. NEW VERIZON WIRELESS 30 KW KOHLER EMERGENCY BACKUP GENERATOR, WITH A 150 GALLON DIESEL FUEL TANK, MOUNTED ON A NEW 5'-0" X 8'-0" CONCRETE SPILL CONTAINMENT PAD LOCATED OUTSIDE EXISTING LEASE PREMISES.
2. NEW VERIZON WIRELESS WALL MOUNTED AUTOMATIC TRANSFER SWITCH LOCATED INSIDE EXISTING VERIZON WIRELESS EQUIPMENT SHELTER. CONTRACTOR TO VERIFY IN FIELD FOR EXACT MOUNTING LOCATION.
3. NEW VERIZON WIRELESS 5' WIDE NON-EXCLUSIVE UTILITY EASEMENT (SHOWN HATCHED).
4. EXISTING VERIZON WIRELESS 13'-4" X 25'-4" EQUIPMENT SHELTER AND LOCATION OF NEW VERIZON WIRELESS WALL MOUNTED AUTOMATIC TRANSFER SWITCH.
5. EXISTING VERIZON WIRELESS 35' HIGH MONOPALM.
6. EXISTING VERIZON WIRELESS (4) PANEL ANTENNAS PER SECTOR, (2) SECTORS, (8) ANTENNAS TOTAL, MOUNTED ON EXISTING MONOPALM.
7. EXISTING VERIZON WIRELESS 2' DIA. PARABOLIC ANTENNA MOUNTED ON EXISTING MONOPALM.
8. EXISTING VERIZON WIRELESS A/C UNITS MOUNTED ON RAISED CONCRETE PAD.
9. EXISTING VERIZON WIRELESS UTILITY TRENCH WITH 5' WIDE UTILITY EASEMENT.
10. EXISTING VERIZON WIRELESS WALL MOUNTED ELECTRICAL METER.
11. EXISTING VERIZON WIRELESS WALL MOUNTED LUG BOX.
12. EXISTING ACCESS ROAD.
13. EXISTING GRASS/DIRT AREA.



DETAILED SITE PLAN

SCALE: 3/8" = 1'-0"

REV:	DATE/BY:	REVISION DESCRIPTION:
0	10-21-09 MY	ZONING SET
1	10-26-09 FN	CLIENT REVISIONS

CONSULTANT:

milestone wireless
8941 ATLANTA AVENUE, #504
HUNTINGTON BEACH, CA. 92646

SITE BUILDER:

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st. FLOOR
IRVINE, CA. 92618
PHONE (949) 286-7000

AE DEVELOPMENT:

ACO ARCHITECTS - INC.
26170 ENTERPRISE WAY #600
LAKE FOREST, CA 92630
TEL: 949-716-9940
FAX: 949-297-4788

ENGINEER:

SITE INFO:

SITE NAME:
I-15
EAST MISSION ROAD

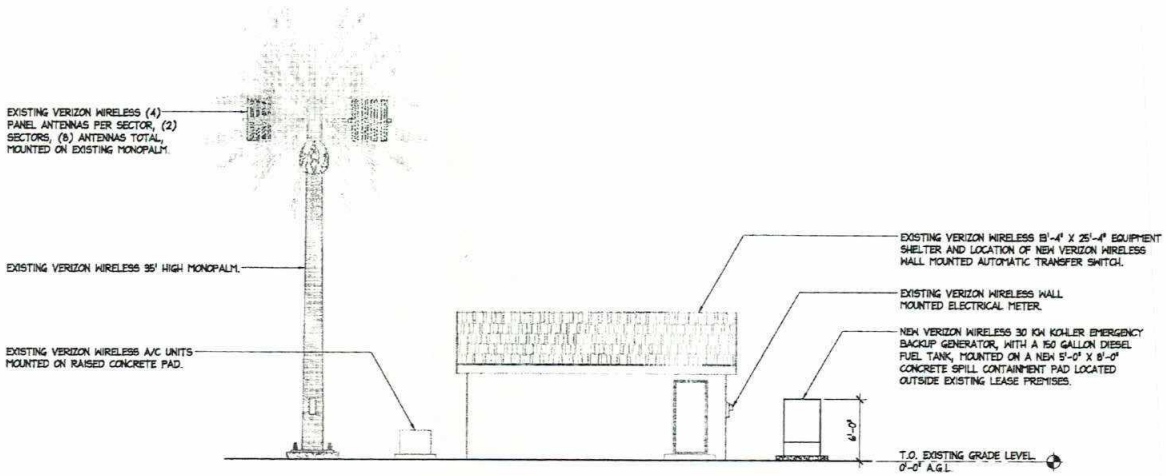
SITE ADDRESS:
4230 WHITE LILAC RD.
FALLBROOK, CA 92028

SHEET TITLE:
DETAILED SITE PLAN

DRAWING INFO:

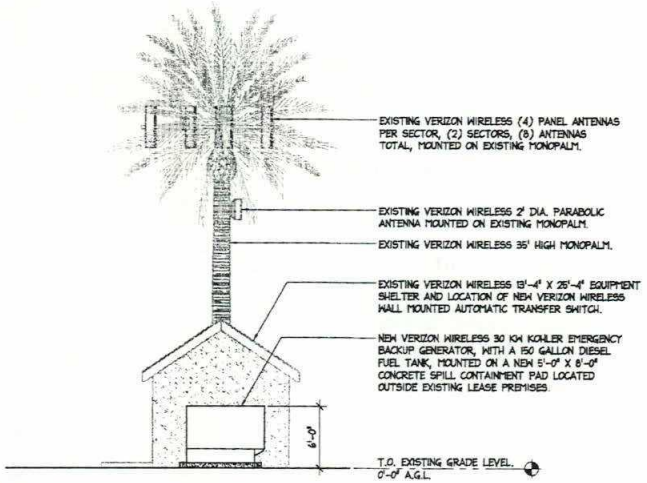
DWG. NAME:	DRAWN BY:	DATE:
A2	MY	10-20-09

SHEET NUMBER:
A-2



EAST ELEVATION

SCALE: 3/16" = 1'-0" | 1



NORTH ELEVATION

SCALE: 3/16" = 1'-0" | 2

REV:	DATE/BY:	REVISION DESCRIPTION:
0	10-21-09 MY	ZONING SET
1	10-26-09 FN	CLIENT REVISIONS

CONSULTANT:

milestone wireless
8941 ATLANTA AVENUE, #504
HUNTINGTON BEACH, CA. 92646

SITE BUILDER:

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st. FLOOR
IRVINE, CA. 92618
PHONE (949) 286-7000

A&E DEVELOPMENT:

ACO ARCHITECTS - INC.
26170 ENTERPRISE WAY #600
LAKE FOREST, CA 92630
TEL: 949-716-9940
FAX: 949-297-4788

ENGINEER:

SITE INFO:

SITE NAME: I-15 EAST MISSION ROAD

SITE ADDRESS: 4230 WHITE LILAC RD. FALLBROOK, CA 92028

SHEET TITLE: ARCHITECTURAL ELEVATIONS

DRAWING INFO:

DWG. NAME:	DRAWN BY:	DATE:
A3	MY	10-20-09

SHEET NUMBER: A-3

REV:	DATE/BY:	REVISION DESCRIPTION:
0	10-21-09 MY	ZONING SET
1	10-26-09 FN	CLIENT REVISIONS

CONSULTANT:

milestone wireless
8941 ATLANTA AVENUE, #504
HUNTINGTON BEACH, CA. 92646

SITE BUILDER:

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st. FLOOR
IRVINE, CA. 92618
PHONE (949) 286-7000

A&E DEVELOPMENT:

ACO ARCHITECTS - INC.
26170 ENTERPRISE WAY #600
LAKE FOREST, CA 92630
TEL: 949-716-9940
FAX: 949-297-4788

ENGINEER:

SITE INFO:

SITE NAME: I-15 EAST MISSION ROAD

SITE ADDRESS: 4230 WHITE LILAC RD. FALLBROOK, CA 92028

SHEET TITLE: GENERATOR SPECIFICATIONS

DRAWING INFO:

DWG. NAME:	DRAWN BY:	DATE:
A4	MY	10-20-09

SHEET NUMBER: A-4

NOT USED

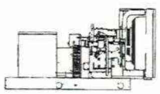
SCALE: N.T.S. (2/A-4)

Model: 30REOZJC-VER

KOHLER POWER SYSTEMS

Diesel

ISO 9001



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set is UL 2200 listed.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- The generator set complies with ISO 8528-5, Class G2, requirements for transient performance.
- The generator set engine is certified by the Environmental Protection Agency (EPA) to conform to interim Tier 4 nonroad emissions regulations.
- A five-year basic limited warranty covers all systems and components.
- The unique Fast-Response™ II excitation system delivers excellent voltage response and short circuit capability using a permanent magnet (PM) excited alternator.
- The low coolant level shutdown prevents overheating.
- Integral vibration isolation eliminates the need for under-unit vibration spring isolators.

Generator Set Ratings

Alternator	Voltage	Ph	Hz	105°C Rise Standby Rating kW/kVA	Amps
4P5	120/208	3	60	30/38	104
4Q5	120/240	1	60	30/30	125

[illegible]

Alternator Specifications

Specifications	Alternator
Manufacturer	Kohler
Type	4-Pole, Rotating Field
Exciter type	Brushless, Permanent-Magnet
Voltage regulator	Solid State, Volts/Hz
Insulation:	NEMA MG1
Material	Class H
Bearing: quantity, type	1, Sealed
Coupling	Flexible Disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load	±1% Average
One-step load acceptance	100% of Rating
Unbalanced load capability	100% of Rated Standby Current
Peak motor starting kVA:	(35% dip for voltages below)
208 V 4P5	121
240 V 4Q5	85

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Fast-Response™ II brushless alternator with brushless exciter for excellent load response.

Application Data

Engine

Engine Specifications	
Manufacturer	John Deere
Engine model	4024TF281
Engine type	4-Cycle, Turbocharged
Cylinder arrangement	4 Inline
Displacement, L (cu. in.)	2.4 (149)
Bore and stroke, mm (in.)	86 x 105 (3.39 x 4.13)
Compression ratio	20.5:1
Piston speed, m/min. (ft./min.)	375 (1230)
Main bearings: quantity, type	5, Replaceable Insert
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	36 (48)
Cylinder head material	Cast Iron
Crankshaft material	Ductile Iron
Valve material:	
Intake	Chromium-Silicon Steel
Exhaust	Stainless Steel
Governor: type, make/model	Electronic Stanadyne/Unit Pump
Frequency regulation, no-load to full-load	Isochronous
Frequency regulation, steady state	±0.25%
Frequency	Fixed
Air cleaner type, all models	Dry

Exhaust

Exhaust System	
Exhaust manifold type	Dry
Exhaust flow at rated kW, m³/min. (cfm)	8.0 (283)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	552 (1026)
Maximum allowable back pressure, kPa (in. Hg)	7.5 (2.2)
Exhaust outlet size at engine hookup, mm (in.)	63.5 (2.5)

Engine Electrical

Engine Electrical System	
Battery charging alternator:	
Ground (negative/positive)	Negative
Volts (DC)	12
Ampere rating	70
Starter motor rated voltage (DC)	12
Battery, recommended cold cranking amps (CCA):	
Quantity, CCA rating	One, 640
Battery voltage (DC)	12

Fuel

Fuel System	
Fuel supply line, min. ID, mm (in.)	11.0 (0.44)
Fuel return line, min. ID, mm (in.)	5.0 (0.25)
Max. lift, engine-driven fuel pump, m (ft.)	3.0 (10.0)
Max. fuel flow, Lph (gph)	99 (26.1)
Fuel prime pump	Manual
Fuel filter	
Secondary	5 Microns @ 98% Efficiency
Water Separator	Yes
Recommended fuel	#2 Diesel

Lubrication

Lubricating System	
Type	Full Pressure
Oil pan capacity, L (qt.)	7.3 (7.7)
Oil pan capacity with filter, L (qt.)	8.2 (8.7)
Oil filter: quantity, type	1, Cartridge
Oil cooler	Water-Cooled

Application Data

Cooling

Radiator System	
Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	2.6 (0.7)
Radiator system capacity, including engine, L (gal.)	11.4 (3.0)
Engine jacket water flow, Lpm (gpm)	91 (24)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	24.8 (1412)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	597 (23.5)
Fan, kWm (HP)	2.9 (3.9)
Max. restriction of cooling air, intake and discharge side of radiator, kPa (in. H_2O)	0.125 (0.5)

Operation Requirements

Air Requirements	
Radiator-cooled cooling air, m³/min. (scfm)‡	96 (3400)
Cooling air required for generator set when equipped with dry water cooling or remote radiator, based on 14°C (25°F) rise and ambient temp. of 29°C (85°F), m³/min. (cfm)	48 (1700)
Combustion air, m³/min. (cfm)	3.0 (106)
Heat rejected to ambient air:	
Engine, kW (Btu/min.)	8.6 (490)
Alternator, kW (Btu/min.)	4.4 (250)

‡ Air density = 1.20 kg/m³ (0.075 lbm/ft³)

Fuel Consumption	
Diesel, Lph (gph) at % load	Standby Rating
100%	10.6 (2.8)
75%	8.0 (2.1)
50%	5.8 (1.5)
25%	3.8 (1.0)

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-565-3381, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KohlerPower.com

Controller

KPC 1000 Controller Features

- Audiovisual annunciation with NFPA 99 and NFPA 110 capability
- Multi-line digital data display and keypad to access data
- 12- or 24-volt DC engine electrical system capability
- Graphic liquid crystal display (LCD) with 128 x 64 pixel resolution and backlighting
- Sealed six-button keypad
- Ten bi-color (yellow warning and red shutdown fault or green status indicating LED lights
- Rad failure (fault) shutdown LED
- Three-button master switch: Auto, Off (Reset), Run
- Alarm horn with silence switch function
- Upgradeable application code
- RS-485 connector for serial data communication
- Password-protected programming mode
- PC interface Software for monitoring, adjustment, and upgrades
- Faults:
  - Auxiliary fault
  - High engine temperature
  - Low cranking voltage
  - Low oil pressure
  - Low coolant level
  - Overcrank
  - Overspeed
  - Overvoltage
  - Undervoltage
  - Overfrequency
  - Underfrequency
  - Low battery voltage
  - High battery voltage

GENERATOR SPECIFICATIONS

SCALE: N.T.S. (1/A-4)

APPENDIX B

Pertinent Sections of County of San Diego Noise Ordinance

SEC. 36.403. SOUND LEVEL MEASUREMENT.

(a) A sound level measurement made pursuant to this chapter shall be measured with a sound level meter using A-weighting and a "slow" response time, as these terms are used in ANSI S1.1-1994 or its latest revision.

(b) Each measurement shall be conducted at the boundary line of the property on which the noise source is located or any place on the affected property, but no closer than five feet from the noise source.

(c) The sound level meter shall be calibrated and adjusted by means of an acoustical calibrator of the coupler-type to assure meter accuracy within the tolerances in the ANSI specifications for sound level meters, ANSI S1.4-1983 or its latest revision. The sound level meter shall be used as provided in the manufacturer's instructions.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.404. GENERAL SOUND LEVEL LIMITS.

(a) Except as provided in section 36.409 of this chapter, it shall be unlawful for any person to cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in Table 36.404 when the one-hour average sound level is measured at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise.

TABLE 36.404
SOUND LEVEL LIMITS IN DECIBELS (dBA)

ZONE	TIME	ONE-HOUR AVERAGE SOUND LEVEL LIMITS (dBA)
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S87, S90, S92, RV, and RU with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
(2) RRO, RC, RM, S86, V5, RV and RU with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
(3) S94, V4, and all commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(4) V1, V2	7 a.m. to 7 p.m.	60
V1, V2	7 p.m. to 10 p.m.	55
V1	10 p.m. to 7 a.m.	55
V2	10 p.m. to 7 a.m.	50
V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(5) M50, M52, and M54	Anytime	70
(6) S82, M56, and M58.	Anytime	75
(7) S88 (see subsection (c) below)		

(b) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.

(c) S88 zones are Specific Planning Areas which allow different uses. The sound level limits in Table 36.404 above that apply in an S88 zone depend on the use being made of the property. The limits in Table 36.404, subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

(d) If the measured ambient noise level exceeds the applicable limit in Table 36.404, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.

(e) The sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, however, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive industry is located.

(f) A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section measured at or beyond six feet from the boundary of the easement upon which the facility is located.

(Amended by Ord. No. 7094 (N.S.), effective 3-25-86; amended by Ord. No. 9478 (N.S.), effective 7-19-02; amended by Ord. No. 9621 (N.S.), effective 1-9-04; amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.405. REPAIRING, REBUILDING OR TESTING MOTOR VEHICLES.

It shall be unlawful for any person to repair, rebuild or test any motor vehicle in such a manner as to cause a disturbing, excessive or offensive noise as defined in section 36.402 of this chapter.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.406. POWERED MODEL VEHICLES.

It shall be unlawful for any person to operate a powered model vehicle between 9 p.m. and 7 a.m. A powered model vehicle operated in a County park shall meet the daytime sound level standards for an RS zone measured at a point 100 feet from the park property line or 100 feet from where the model vehicle is being operated, whichever is less.

(Amended by Ord. No. 9962 (N.S.), effective 1-9-09)

SEC. 36.407. REFUSE VEHICLES & PARKING LOT SWEEPERS.

No person shall operate or allow to be operated, a refuse compacting, processing, or collection vehicle or a parking lot sweeper between the hours of 10 p.m. to 6 a.m., in or within 100 feet of a residential zone.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88; amended by Ord. No. 9962 (N.S.), effective 1-9-09)

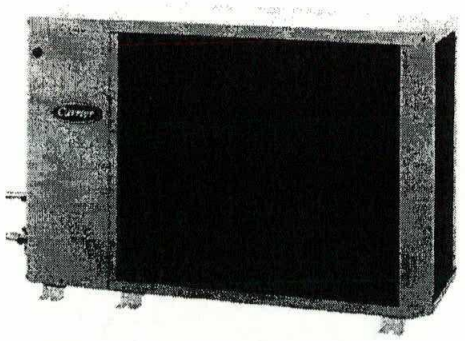
APPENDIX C

Manufacturer Data Sheets

38HDR
Performance™ Series Air Conditioner with Puron® Refrigerant
1–1/2 to 5 Nominal Tons

Carrier
turn to the experts

Product Data



Puron
the environmentally sound refrigerant

Performance SERIES

Carrier's Air Conditioners with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 38HDR has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer.

As an Energy Star® Partner, Carrier Corporation has determined that this product meets the Energy Star® guidelines for energy efficiency. Refer to the combination ratings in the Product Data for system combinations that meet Energy Star® guidelines.

NOTE: Ratings contained in this document are subject to change at any time. Always refer to the AHRI directory (www.ahridirectory.org) for the most up-to-date ratings information.

INDUSTRY LEADING FEATURES / BENEFITS

Energy Efficiency

- 13 - 15 SEER/10.9 - 12.5 EER

Sound

- Levels as low as 68 dBA

Design Features

- New aesthetics
- Small footprint, same as old model and "stackable"
- WeatherArmor™ cabinet
  - — All steel cabinet construction
  - — Baked on powder paint
  - — Mesh coil guard

Reliability, Quality and Toughness

- Scroll compressor
- Crankcase Heater standard on sizes 030-060
- Factory-supplied filter drier
- High pressure switch
- Low pressure switch
- Line lengths up to 250' (76.2 m)
- Low ambient operation (down to -20°F/-28.9°C) with low ambient accessories.

ELECTRICAL DATA

38HDR UNIT SIZE	V–PH–Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/CKT BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018–31	208/230–1–60	187	253	9.0	48.0	0.8	0.125	0.09	12.1	20
024–32	208/230–1–60	187	253	13.5	58.3	0.8	0.125	0.09	17.7	25
030–31	208/230–1–60	187	253	14.1	73.0	1.5	0.250	0.19	19.1	30
036–31	208/230–1–60	187	253	14.1	77.0	1.5	0.250	0.19	19.1	30
	208/230–3–60	187	253	9.2	71.0	1.5	0.250	0.19	13.0	20
	460–3–60	414	506	5.6	38.0	0.8	0.250	0.19	7.9	10
048–32	208/230–1–60	187	253	19.9	109.0	1.5	0.250	0.19	26.4	40
	208/230–3–60	187	253	13.1	83.1	1.5	0.250	0.19	17.9	25
	460–3–60	414	506	6.1	41.0	0.8	0.250	0.19	8.4	15
060–32	208/230–1–60	187	253	26.4	134.0	1.5	0.250	0.19	34.5	60
	208/230–3–60	187	253	16.0	110.0	1.5	0.250	0.19	21.5	30
	460–3–60	414	506	7.8	52.0	0.8	0.250	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA – Full Load Amps

HACR – Heating, Air Conditioning, Refrigeration

LRA – Locked Rotor Amps

NEC – National Electrical Code

RLA – Rated Load Amps (compressor)

NOTE: Control circuit is 24–V on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

Complies with 2007 requirements of ASHRAE Standards 90.1

A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018–31	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024–32	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030–31	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036–31	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048–32	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060–32	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

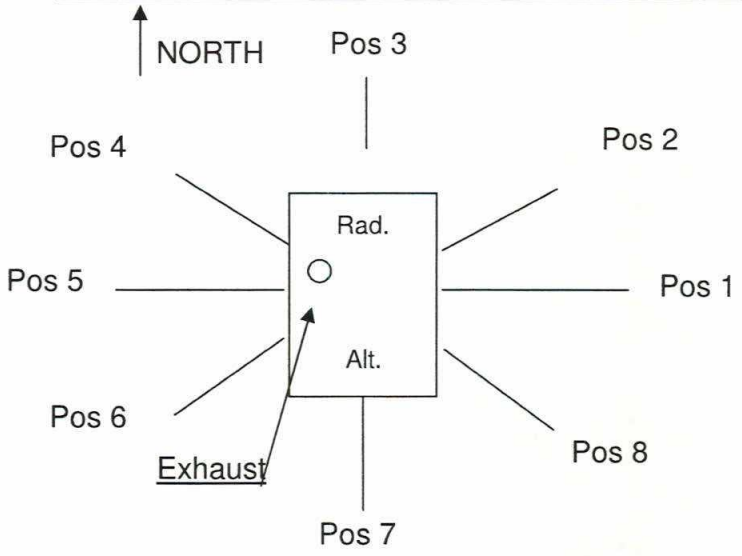
NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE–VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018–31	12 (6.7)
024–32	12 (6.7)
030–31	12 (6.7)
036–31	12 (6.7)
048–32	12 (6.7)
060–32	12 (6.7)

GENERATOR TEST RECORD

Type Of Test:	Sound test	Test No.	30REOZJC-14	Sheet Number	4 of 4
		Work Reqst. No.	6300	Observer	LVG
		Model	30REOZJC	Date	7/28/2008
		Generator Type	4P5	Serial No.	2183470
		Controller No.	DEC 3+	Spec No.	GM57153-ENG5
			16 Lite	Ambient	

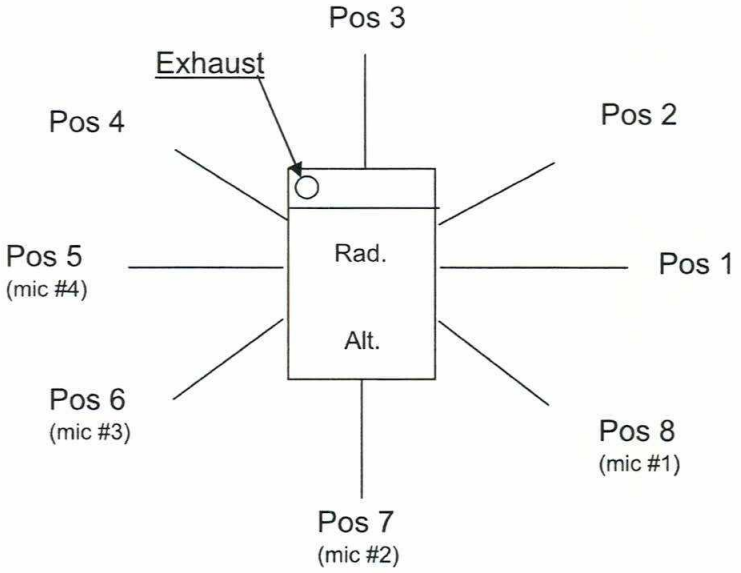


Loads are in kW

Position	Load Amb	Load NL	Load 30
1	49.2	79.5	78.9
2	49.6	80.4	80.3
3	51.5	81.2	80.4
4	51.6	81.4	81.1
5	49.1	78.6	78.7
6	49.2	76.2	77.1
7	49.4	80.2	81.3
8	48.8	79.6	80.5
Average	49.8	79.6	79.8
Log Addition	**59.0**	**88.9**	**89.0**
Log Average	**49.9**	**79.9**	**80.0**

GENERATOR TEST RECORD

Type Of Test:	Sound test	"	**Test No.**		**Sheet Number**	11 OF 12
	GM59120 sound housing	"	**Work Reqst. No.**	6301	**Observer**	RJD/LVG
	8 points, 7 meters from PROFILE.	"	**Model**	30REOZJC	**Date**	2/1/2008
		"	**Generator Type**		**Serial No.**	2177815
			Controller No.		**Spec No.**	GM67153-ENG1
		"				



Loads are in kW

Position	Load NL	Load 30 KW
1	62.1	64.3
2	61.2	65.9
3	61.6	65.7
4	62.0	67.0
5	61.7	65.0
6	61.9	63.5
7	60.6	65.3
8	61.5	65.7
Average	61.6	65.3
Log Addition	**70.6**	**74.4**
Log Average	**61.6**	**65.4**

APPENDIX D

Pertinent Section of Previous Eilar Associates Acoustical Report

Verizon Kohler 40 kW Standby Generator

The noise emission of a Kohler model 40 kW standby generator measured at 10 feet from the unit is 87.3 dBA. This similar equipment noise measurement was made at Valley Parkway in Escondido on Monday, August 18, 2003 at 2:15 p.m. The conditions were high 80's, no measurable wind, moderate humidity. The measured octave data for the two similar operational units are presented in Table 5.

Table 5. Octave Data Table Kohler Model 40 Generator

Octave Band Frequency (Hertz)	63	125	250	500	1K	2K	4K	8K	L_{EQ} (dBA)
West Side at 10 feet	86.2	86.2	87.3	80.2	84.3	81.4	74.4	69.7	87.3

APPENDIX E

Cadna Analysis Data and Results

Cadna Noise Model - Sound Levels													
Name	ID	Type	Oktave Spectrum (dB)										Source
			Weight.	63	125	250	500	1000	2000	4000	8000	A	lin	
Kohler 30 kW w/o Sound Enclosure	L_1	Li		106.3	106.3	107.4	100.3	104.3	101.5	94.5	90.3	108.0	112.9	BCEW & Measurement
Kohler 30 kW w/ Sound Enclosure	L_2	Li		91.7	91.7	92.8	85.7	89.8	86.9	79.9	75.2	93.5	98.3	BCEW & Measurement
Carrier 38HDC060	L_3	Li	A		63.0	61.5	64.0	66.5	66.0	64.5	55.5	72.4	80.3	Manufacturer
Marvair Compac II	L_4	Li		84.6	88.7	87.1	80.7	78.7	72.4	68.9	61.2	84.0	92.5	Measurement

Cadna Noise Model - Point Sources (Unmitigated Model)								
Name	ID	Result. PWL	Lw / Li		Height	Coordinates		
		Day	Type	Value		X	Y	Z
		(dBA)			(m)	(m)	(m)	(m)
Generator	S_1	108.0	Lw	L_1	1.52	-173.68	264.76	1.52
AC Unit 1	S_2	72.4	Lw	L_3	0.91	-177.01	253.57	0.91
AC Unit 2	S_3	72.4	Lw	L_3	0.91	-174.93	253.14	0.91
Nextel AC 1	S_4	84.0	Lw	L_4	1.83	-180.38	239.46	1.83
Nextel AC 2	S_5	84.0	Lw	L_4	1.83	-177.94	238.94	1.83

Cadna Noise Model - Unmitigated Noise Levels at Receivers						
Name	ID	Level Lr	Height	Coordinates		
		Day		X	Y	Z
		(dBA)	(m)	(m)	(m)	(m)
North	R_1	69.5	1.52	-173.51	286.18	1.52
South	R_2	48.6	1.52	-164.6	76.04	1.52
East	R_3	49.8	1.52	-5.78	265.96	1.52
West	R_4	56.8	1.52	-239.47	215.75	1.52
Residence	R_5	56.1	1.52	-179.65	176.8	1.52

Cadna Noise Model - Point Sources (Mitigated Model)								
Name	ID	Result. PWL	Lw / Li		Height	Coordinates		
		Day	Type	Value		X	Y	Z
		(dBA)			(m)	(m)	(m)	(m)
Generator	S_1	93.5	Lw	L_2	1.52	-173.68	264.76	1.52
AC Unit 1	S_2	72.4	Lw	L_3	0.91	-177.01	253.57	0.91
AC Unit 2	S_3	72.4	Lw	L_3	0.91	-174.93	253.14	0.91
Nextel AC 1	S_4	84.0	Lw	L_4	1.83	-180.38	239.46	1.83
Nextel AC 2	S_5	84.0	Lw	L_4	1.83	-177.94	238.94	1.83

Cadna Noise Model - Mitigated Noise Levels at Receivers						
Name	ID	Level Lr	Height	Coordinates		
		Day		X	Y	Z
		(dBA)	(m)	(m)	(m)	(m)
North	R_1	55.1	1.52	-173.51	286.18	1.52
South	R_2	34.9	1.52	-164.6	76.04	1.52
East	R_3	35.8	1.52	-5.78	265.96	1.52
West	R_4	43.3	1.52	-239.47	215.75	1.52
Residence	R_5	42.9	1.52	-179.65	176.8	1.52